



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0991; Project Identifier AD-2020-00478-Q]

RIN 2120-AA64

Airworthiness Directives; Garmin International GMN-00962 GTS Processor Units (GTS 825, GTS 855, GTS 8000)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Garmin International (Garmin) GMN-00962 GTS processor units (GTS 825, GTS 855, GTS 8000). This proposed AD was prompted by reports of GTS processor units issuing resolution advisories (RAs) when no risk of collision or loss of separation exists between the airplanes involved. This proposed AD would require updating the software version of the affected GTS Processor units. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Garmin International, Garmin Aviation Support, 1200 E. 151st Street, Olathe, KS 66062; phone: (866) 739-5687; website: <https://fly.garmin.com/fly-garmin/support/>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust St, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0991; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Paul Rau, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209; phone: (316) 946-4149; fax: (316) 946-4107; email: paul.rau@faa.gov or Wichita-COS@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2020-0991; Project Identifier AD-2020-00478-Q” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Paul Rau, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

In 2017, the FAA received seven reports of false RAs involving aircraft equipped with Garmin GMN-00962 GTS processor configured for traffic collision avoidance system II (TCAS II) (configuration marketed as GTS-8000 units). The Garmin GMN-00962 GTS processor units are marketed by Garmin as the GTS 825, GTS 855 or GTS 8000, with the marketing name representing the traffic system configuration.

A false RA occurs when there is no risk of collision or loss of separation of the airplanes. The FAA review of available air traffic data identified additional false RA incidents occurring at rates as frequent as once every 420 flight hours in congested airspace. These false RAs result from the GTS Processor software potentially calculating incorrect range rates. This results in traffic advisories or RAs being generated when targets are greater than 10 nautical miles (NM) away. A TCAS event involving three or more airplanes can result in mid-air collision by increasing the risk that the TCAS, in resolving the false RA with the initial airplane, will create an actual loss of separation with a third airplane.

This condition, if not addressed, could result in an RA being generated when no risk of loss of separation or risk of collision exists between the airplanes involved, which can lead to a mid-air collision with a third airplane.

The affected GTS processor units were installed on the airplanes listed below during production; however, the affected units may have been installed on other airplane models as a supplemental type certificate. Although the names found in parenthesis may not be listed on the type certificate, the manufacturer may use those names as marketing names for the airplanes.

- Textron Aviation Inc. (type certificate previously held by Cessna Aircraft Company) Model 525 (Cessna Citation M2), Model 525B (Cessna Citation CJ3+), Model Model 680 Sovereign, Model 680A Latitude, and Model 700 (Cessna Citation Longitude);
- Embraer S.A. Model EMB-500 (Phenom 100) and Model EMB-505 (Phenom 300); and
- Learjet Inc. Model 45 (Learjet 70) and Model 45 (Learjet 75).

FAA's Determination

The FAA is issuing this NPRM after determining the unsafe condition described previously is likely to exist or develop in other products of these same type design.

Related Service Information

The FAA reviewed Garmin Service Bulletin No. 2065, Revision A, dated May 7, 2020; and Garmin Service Bulletin No. 1948, Revision B, dated March 26, 2020. These service bulletins contain procedures for uploading the software update to the GMN-00962 GTS Processor units (GTS 825, GTS 855, GTS 8000).

Proposed AD Requirements in this NPRM

This proposed AD would require updating the GTS processor unit software within 12 months.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 700 appliances installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Update GTS	4 work-hours x	\$0	\$340	\$238,000

processor software	\$85 per hour = \$340			
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Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Garmin International: Docket No. FAA-2020-0991; Project Identifier AD-2020-00478-Q.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Garmin International GMN-00962 GTS processor units, part number 011-02571-0(), with software version 3.13 or earlier, except software version 3.12.1. These units are marketed as the GTS 825, GTS 855, or GTS 8000.

(d) Subject

Joint Aircraft System Component (JASC) Code 3445, AIR COLLISION AVOIDANCE SYSTEM (TCAS).

(e) Unsafe Condition

This AD was prompted by the GTS processor unit issuing false resolution advisories (RAs) when no risk of collision or loss of separation exists between the airplanes involved. A traffic collision avoidance system (TCAS) event involving three or more airplanes can result in mid-air collision by increasing the risk that the TCAS, in resolving the false RA between the initial airplane, will create an actual loss of separation with a third airplane. The FAA is issuing this AD to prevent these false RAs, which can lead to a mid-air collision with a third airplane.

(f) Required Action and Compliance

Within 12 months after the effective date of this AD, update the GTS processor software to a version that is not 3.13 or earlier.

(g) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Wichita ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(h) Related Information

(1) For more information about this AD, contact Paul Rau, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Wichita, KS 67209; phone: (316) 946-4149; fax: 316-946-4107; email: paul.rau@faa.gov or Wichita-COS@faa.gov.

(2) For service information that is relevant to this AD, contact Garmin International, Garmin Aviation Support, 1200 E. 151st Street, Olathe, KS 66062; phone: (866) 739-5687; website: <https://fly.garmin.com/fly-garmin/support/>.

Issued on December 7, 2020.

Ross Landes, Deputy Director for Regulatory Operations,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2020-27324 Filed: 12/11/2020 8:45 am; Publication Date: 12/14/2020]